Can Dist Tables Be Merged in Linear Time An Open Problem

(*Invited Talk*)

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Dist tables are key players in the computation of dynamic programming tables in $o(n^2)$ time. Given two strings A and T, $dist(A, T)$ stores the scores of the edit distances between T and all substrings of A. Given $dist(A, T)$ and $dist(B, T)$ (strings A and B are each of length m and T is of length n) the best known algorithms that compute $dist(AB, T)$ run in $\mathcal{O}(nm)$ time or $\mathcal{O}(n^{1.5})$ time. We will discuss the use of dist tables and Schmidt and Tiskin's Algorithms as well as some thoughts on possible directions to answering the open problem.